

REMARKS/ARGUMENT

Applicant responds herein to the Office Action dated January 26, 2005.

Request for Personal Interview:

Attached hereto is a Form PTOL-413A. Applicants' representative will contact the Examiner by telephone to set a mutually convenient date and time.

Regarding the Claims in General:

Claims 2-14 are now pending. Claim 1 has been cancelled without prejudice and has been rewritten as new claim 14, and claims 10-12 have been amended to better highlight the distinguishing features of the invention, and to conform better to customary idiomatic English and grammar, and U.S. claim practice.

Regarding the Prior Art Rejections:

In the outstanding Office Action, the Examiner continues to rely on Yabe, et al U. S. Patent 4,845,555 (Yabe) as the principal reference in a rejection of claims 1-3 and 5-13 under 35 U.S.C. 103, but now, in combination with newly cited Kato U. S. Patent 4,831,444 (Kato). Also, claim 4 has been rejected as obvious over Yabe in view of Kato and Pasqualini U. S. Patent 6,397,374 (Pasqualini). Reconsideration is requested in view of the following comments.

In the embodiment shown in Figure 10 of Yabe, the delay circuit (included in element 34) is incorporated in connector 7 at the end of cable 6 (see Col. 8, beginning at line 51). With this architecture, the matching circuit and delay circuit are not part of the video processing circuit. This directly contradicts the teaching of the present invention and the recitation of claim 14, which requires that the delay circuit be part of the video processor.

The Examiner seeks to overcome this deficiency in Yabe by reliance on Kato which does show delay circuits for cable length compensation in the signal processing units. In this regard, he suggests in the last two lines of page 3 of the Office Action that motivation for moving Yabe's delay circuit into endoscope control unit 2 would be to provide "an efficient way to compensate for deterioration of signal during transmission of image data". However, it is not seen how the Examiner's suggestion yields any increased efficiency.

Moreover, it is respectfully submitted that the Examiner's proposed modification can not be considered obvious to a person skilled in the art because it would render Yabe inoperable for its intended purpose. In particular, Yabe depends on the fixed delay value to identify the endoscope (Col. 8, lines 51-55). Moving the delay circuit into the control unit will completely destroy this functionality.

Of course, Yabe's functionality could be provided in a system having a delay unit in the control unit - - the present invention does precisely that. But even apart from the lack of a legitimate motivation for modifying Yabe in any manner, there is no teaching in Yabe or Kato as to how to modify Yabe in a way that its functionality is retained. Kato depends on a first VCO 24 to control the camera and a second VCO 34 in a phase lock loop which functions to provide cable length compensation. The various embodiments in Kato include a fixed delay circuit 36 in the in the loop or as an input thereto. The purpose of delay 36 is to provide a base level of compensation when the cable delay is so great that the phase loop alone can not provide adequate compensation alone. Actually, delay 36 can even be omitted entirely if the phase loop can provide adequate delay compensation (see Col. 4, lines 37-41). There is nothing like this in Yabe.

Finally, even disregarding the loss of intended functionality, if one were to move Yabe's delay circuit into the control unit, the result would still not read on the structure recited in claim 14, which requires that the video processor include therein:

a synchronizing signal generator;

a first drive signal generator responsive to the synchronizing signal to generate a first drive signal for an imaging device located in said endoscope portion . . .

a second drive signal generator portion responsive to the synchronizing signal to generate a second drive signal for controlling a timing when said video signal extracting portion obtains said first video signal from said imaging signal;

a first processor, the first processor including at least a part of a circuit for obtaining, from said first video signal, a second video signal that can be displayed on a monitor; and

an adjustable delay circuit including a first portion coupled between said synchronization signal generator and said first drive signal generator and a second portion coupled between said synchronization signal generator and said second drive signal generator,

said adjustable delay circuit being operable to provide selectable delays for synchronization signals provided to said first and second drive signal generators.

Combining the teachings of Yabe and Kato would not result in a structure including a single synchronizing signal generator which controls both video capture and extraction and an adjustable delay circuit including a first portion coupled between the synchronization signal generator and the first drive signal generator and a second portion coupled between the synchronization signal generator and the second drive signal generator, which provides selectable delays for synchronization signals provided to said first and second drive signal generators.

Despite the fact that the ultimate objectives of Yabe, Kato and the present invention are similar, the claimed differences confer benefits not present or suggested in the references, either singly or in combination. According to the present invention, a single video processor can be used with a variety of endoscopes simply by providing the video unit with a programmable delay unit which can be set automatically or manually for each endoscope. This interchangeability is not possible with Yabe, as explained at length in response to the previous Office Action.

As to Kato, at least some of the embodiments provide a degree of interchangeability, but all require complex phase lock loops, along with the video processing elements and control units required in the present invention. And even if one recognizes the benefits of interchangeability, there is simply nothing in the references, either alone or in combination, which would tell a person skilled in the art how to achieve this in Yabe. Claim 14 should be allowed for all of these reasons.

Claims 2-13 are all directly or indirectly dependent claim 14 and are patentable for all the reasons stated above. In addition, these claims recite features, which, in combination with the features of claim 14, are not disclosed, taught or suggested in the prior art, whether considered singly or in combination.

Accordingly, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.

I hereby certify that this correspondence is being transmitted by Facsimile to (703) 872-9306 addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

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April 13, 2005
Date of Signature

MM/LAH:gj

Respectfully submitted,

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